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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/903,268	07/11/2001	Anthony Mazzurco	135740	9431

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ALCATEL USA
INTELLECTUAL PROPERTY DEPARTMENT
3400 W. PLANO PARKWAY, MS LEGL2
PLANO, TX 75075

EXAMINER	
MERED, HABTE	

ART UNIT	PAPER NUMBER
2662	

DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

TB

Office Action Summary	Application No.	Applicant(s)	
	09/903,268	MAZZURCO ET AL.	
	Examiner	Art Unit	
	Habte Mered	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-18 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-18 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 11 July 2001 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 01/24/05.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim R j ctions - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1, 3-7, 9-13, and 15-18** are rejected under 35 U.S.C. 102(e) as being anticipated by Chi et al (US 6, 654, 341), hereinafter referred to as Chi.

Regarding **claim1**, Chi discloses a communication system in Figure 6, where first and second network elements (i.e. 604 and 603 in Figure 6) support communications over a plurality of working channels of respective rings using a shared protection channel (i.e. a channel on protection line P4 in Figure 6) common to all rings (i.e. 600, 610, 620).

Chi discloses that the allocation of the shared protection line is in general on a first-come, first served basis. See Column 5, Lines 3-9. Chi also discloses that the shared protection line for a multi-ring system carry K-byte information (i.e. control information). See Column 5, Lines 31-33. Given these disclosures, prior to a span switch request the protection line is a medium for transmitting control information for the multi-ring system of which ring 1 is one of the rings transmitting control information.

When a span switch request on a first ring occurs, then only the control and traffic information of ring 1 will pass through the protection line after the span switch occurs. Chi further discloses in this case that the availability of the shared protection channel to rings other than the first ring is distributed by the shared network elements. See Column 6, Lines 28-32.

Chi discloses in Figure 12 a system with two SONET ring networks with a shared protection line 1227. Chi discloses how requests are handled after a span switch is executed on a shared protection line. See Column 5, Lines 60-64. Chi teaches that the shared protected line receiving the span or ring switch has to take into consideration the priority associated with the request. Accordingly in Figure 12, when a ring switch request occurs in ring 1205 for shared protection line 1227 as a result of a failure in link 1225 then the ring switch is executed based on the priority of the request. After the ring switch is executed then the control information for ring 1200 (i.e. first ring) ceases to pass over the shared protection channel and K-byte ring switch signal is transmitted to indicate the non-availability of the shared protection channel to rings other than ring 1205 (i.e. second ring). See Column 6, Lines 9-32.

3. Regarding **claims 3, 9, and 15**, Chi discloses that to indicate the non-availability of the shared protection ring comprises the step of generating a lockout of protection (LOP) on protection channels for any ring other than the second ring (i.e. ring 1205) while the shared protection span is strictly used to pass communication for the second ring (i.e. ring 1205). See Column 6, Lines 21-28. Chi discloses the means for achieving a circuitry for indicating the non-availability of the shared protection ring using

the elements in Figures 4 and 12. See also Column 4, Lines 15-25; Column 5, Lines 47-50; and Column 6, Lines 25-33.

4. Regarding **claims 4, 10 and 16**, Chi discloses under normal circumstances the shared protection line in a multi-ring system is used to carry control information. See Column 5, Lines 25-33. When a ring switch occurs it ceases to carry the control information of other rings and strictly carries all types of traffic for the particular ring the actual ring switch was executed. In Figure 12, shared protection span 1227 ceases to carry control information for ring 1200 and strictly carries the traffic associated with ring 1205. See Column 6, Lines 20-30. Chi discloses the means for achieving a circuitry for ceasing to pass control information using the elements in Figures 4 and 12. See also Column 4, Lines 15-25; Column 5, Lines 47-50; and Column 6, Lines 30-33.

5. Regarding **claims 5, 11, and 17**, Chi discloses under normal circumstances the shared protection line in a multi-ring system is used to carry control information. See Column 5, Lines 25-33. When a span switch occurs it ceases to carry the control information of other rings and strictly carries all types of traffic for the particular ring the actual span switch was executed until a higher priority request occurs. See Column 5, Lines 3-6 and 60-63. Chi discloses the means for achieving a circuitry for ceasing to pass control information using the elements in Figures 4 and 12. See also Column 4, Lines 15-25; Column 5, Lines 47-50; and Column 6, Lines 30-33.

6. Regarding **claims 6, 12, and 18**, simply describes the ability to perform a span switch on a non-shared protection channel. Chi teaches that span switching can occur at the STS-n/OC-n level. See Column 1, Lines 57-67. Chi discloses the means for

achieving a circuitry for generating a span switch signal using elements in Figures 4 and 12. See also Column 4, Lines 15-25; Column 5, Lines 47-50; and Column 6, Lines 30-33.

7. Regarding **claims 7 and 13**, Chi shows in Figure 12 a communication network using shared protection architecture over a plurality of communication rings. Network elements 1230 and 1240 are 1st and 2nd shared protection elements. The control circuitry for these shared protection network elements is shown in Figure 4.

Chi discloses that the allocation of the shared protection line is in general on a first-come, first served basis. See Column 5, Lines 3-9. Chi also discloses that the shared protection line for a multi-ring system carry K-byte information (i.e. control information). See Column 5, Lines 31-33. Given these disclosures, prior to a span switch request the protection line is a medium for transmitting control information for the multi-ring system of which ring 1 is one of the rings transmitting control information. When a span switch request on a first ring occurs, then only the control and traffic information of ring 1 will pass through the protection line after the span switch occurs. Chi further discloses in this case that the availability of the shared protection channel to rings other than the first ring is distributed by the shared network elements. See Column 6, Lines 28-32. Chi discloses the means for achieving a circuitry for passing control information using elements in Figures 4 and 12. See also Column 4, Lines 15-25; Column 5, Lines 47-50; and Column 6, Lines 25-33.

Chi also discloses that in Figure 12 all traffic including control information for ring 1200 (i.e. 1st ring) ceases to pass over the shared protection channel (i.e. 1227) after a

ring switch is requested and executed to pass communication traffic for ring 1205 (i.e. 2nd ring). See Column 5, Lines 3-7 and Column 6, Lines 20-24. Chi teaches a means to achieve a circuitry for ceasing to pass control information using elements in Figures 4 and 12. See also Column 4, Lines 15-25; Column 5, Lines 47-50; and Column 6, Lines 25-33.

Chi discloses the means for achieving a circuitry for indicating the non-availability of shared protection channel to rings other than the 2nd ring (i.e. ring 1205 of Figure 12) after a ring switch that indicated the shared protection channel is needed strictly to pass communication traffic for the 2nd ring (i.e. ring 1205 of Figure 12) using elements in Figures 4 and 12. See Column 4, Lines 15-25; Column 5, Lines 47-50; and Column 6, Lines 25-33.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> **(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.**

9. **Claims 2, 8, and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Chi et al (US 6, 654, 341), hereinafter referred to as Chi, in view of Ikeda et al (US 6, 144, 633), hereinafter referred to as Ikeda.

10. Regarding **claim 2**, Chi teaches that a request for span switch on a shared protection line is accommodated on the basis of first come, first served provided the shared protection line was not used by any particular ring to pass traffic. That is in the

initial state a shared protection line is used only for transmitting control information. See Column 5, Lines 3-5 and Lines 30-33. Chi also discloses that once a span switch is executed on a shared protection line then all other span and ring switches are entertained based on the priority associated with the requests. See Column 5, Lines 60-63. Assuming all span switch requests are equal in priority any span switch request will be rejected if a span switch is already executed on the shared protection line. New span switches will only be accepted after the prior span switch on the protection line clears. Chi also discloses that K-byte signaling is used to indicate the status of the availability of the shared protection line.

Chi fails to expressly disclose that in rejecting a span switch request by another ring, the rejection sent to the ring that initiated the request using K-byte signaling will indicate a lockout of protection (LOP).

Ikeda discloses how to use K-byte signaling. Ikeda teaches what the command "lockout of protection – span" means and clearly indicates that using a protection line is prohibited. See Column 24, Lines 22-23. Ikeda further shows that the "Lockout Of Protection" is a value supported in K-byte signaling as indicated in Column 26, Table 1.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Chi's method of K-byte signaling by adding the value of "Lockout of Protection", the motivation being when a failure occurs, the best optimal span switching will be performed by exchanging information on failures by means of the APS bytes (i.e. K-byte signaling).

11. Regarding **claim 8**, Chi teaches that a request for span switch on a shared protection line is accommodated on the basis of first come, first served provided the shared protection line was not used by any particular ring to pass traffic. That is in the initial state a shared protection line is used only for transmitting control information. See Column 5, Lines 3-5 and Lines 30-33. Chi also discloses that once a span switch is executed on a shared protection line then all other span and ring switches are entertained based on the priority associated with the requests. See Column 5, Lines 60-63. Assuming all span switch requests are equal in priority any span switch request will be rejected if a span switch is already executed on the shared protection line. New span switches will only be accepted after the prior span switch on the protection line clears. Chi also discloses that K-byte signaling is used to indicate the status of the availability of the shared protection line.

Chi also discloses the means of achieving a circuitry for indicating a lockout of protection (LOP) for any ring requesting a span switch while a span switch is already executed using elements in Figures 4 and 12. See also Column 4, Lines 15-25; Column 5, Lines 47-50; and Column 6, Lines 25-33.

Chi fails to expressly disclose that in rejecting a span switch request by another ring, the rejection sent to the ring that initiated the request using K-byte signaling will indicate a lockout of protection (LOP).

Ikeda discloses how to use K-byte signaling. Ikeda teaches what the command "lockout of protection – span" means and clearly indicates that using a protection line is

prohibited. See Column 24, Lines 22-23. Ikeda further shows that the "Lockout Of Protection" is a value supported in K-byte signaling as indicated in Column 26, Table 1.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Chi's method of K-byte signaling by adding the value of "Lockout of Protection", the motivation being when a failure occurs, the best optimal span switching will be performed by exchanging information on failures by means of the APS bytes (i.e. K-byte signaling).

12. Regarding **claim 14**, Chi teaches that a request for span switch on a shared protection line is accommodated on the basis of first come, first served provided the shared protection line was not used by any particular ring to pass traffic. That is in the initial state a shared protection line is used only for transmitting control information. See Column 5, Lines 3-5 and Lines 30-33. Chi also discloses that once a span switch is executed on a shared protection line then all other span and ring switches are entertained based on the priority associated with the requests. See Column 5, Lines 60-63. Assuming all span switch requests are equal in priority any span switch request will be rejected if a span switch is already executed on the shared protection line. New span switches will only be accepted after the prior span switch on the protection line clears. Chi also discloses that K-byte signaling is used to indicate the status of the availability of the shared protection line.

Chi also discloses the means of achieving a circuitry for indicating a lockout of protection (LOP) for any ring requesting a span switch while a span switch is already

executed using elements in Figures 4 and 12. See also Column 4, Lines 15-25; Column 5, Lines 47-50; and Column 6, Lines 25-33.

Chi fails to expressly disclose that in rejecting a span switch request by another ring, the rejection sent to the ring that initiated the request using K-byte signaling will indicate a lockout of protection (LOP).

Ikeda discloses how to use K-byte signaling. Ikeda teaches what the command "lockout of protection – span" means and clearly indicates that using a protection line is prohibited. See Column 24, Lines 22-23. Ikeda further shows that the "Lockout Of Protection" is a value supported in K-byte signaling as indicated in Column 26, Table 1.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Chi's method of K-byte signaling by adding the value of "Lockout of Protection", the motivation being when a failure occurs, the best optimal span switching will be performed by exchanging information on failures by means of the APS bytes (i.e. K-byte signaling).

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patent is cited to show the state of the art with respect to network management system for shared protection architecture

US Patent (US 6, 683, 849) to Langridge et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Habte Mered whose telephone number is 571 272 6046. The examiner can normally be reached on Monday to Friday 9:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571 272 3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HM

RICKY NGO
PRIMARY EXAMINER